

Case History – VERTECHS ULIA® + HPIT® Real-time Wellbore Strengthening Solution(RWSS)

Eliminate instability in problematic coal formation, reduce NPT and save operation costs substantially.

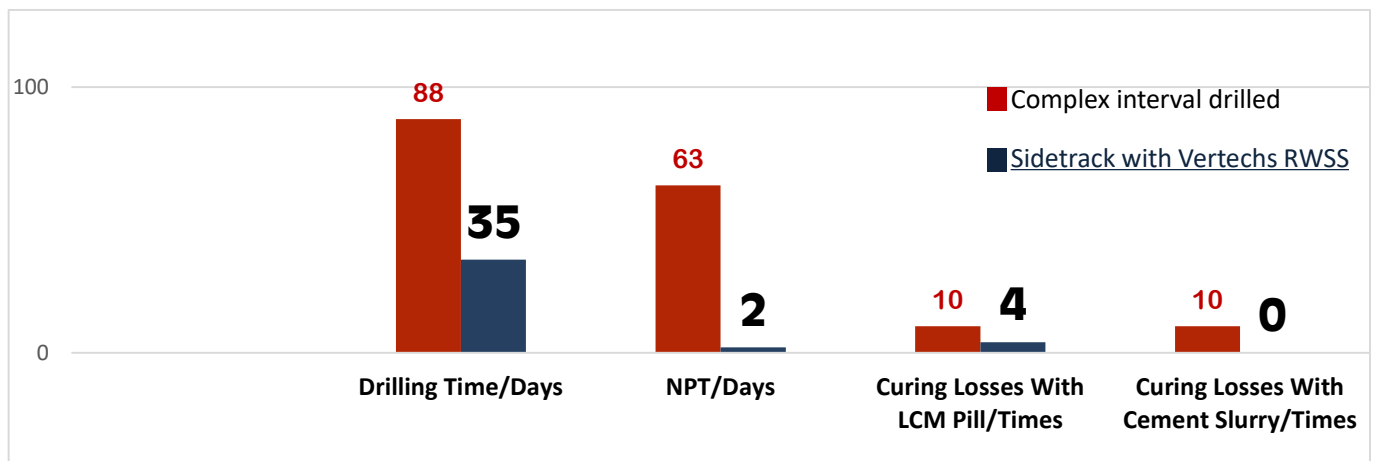
Well location: DaZhou, SW of China.

Well type: Vertical Gas well.

Challenges: This typical low formation pressure well with coal bed and thief zone has encountered serious losses and collapse during drilling from 1076-1634m. After more than 20 times of unsuccessful treatment using LCM pill and cement slurry which failed to stabilize the wellbore and treat losses, the operator was forced to plug back then sidetrack.

Solution: Vertechs real-time wellbore strengthening solution was applied to the sidetrack interval. Around 7 ppb ULIA® ultra low invasion additive was added into the mud system while drilling. Vertechs High Pressure Invasion Tester (HPIT®) was also used on-site to provide real-time reference for drilling fluid invasion management and optimization of ULIA® concentration.

Results: Dec 2018, The complex zone was drilled through successfully without wellbore instability issues such as collapse or stuck pipe.



The base mud penetrated thru 20/40 mesh sand bed. By adding 7ppb ULIA®, the invasion was controlled within 1.2" with 700psi pressure holding.



The uniform sized coal cuttings from shale shaker indicates that there was no collapse during drilling through the coal bed.